

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A three-dimensional structure applicable to heart, comprising a cell derived from a part other than myocardium of an adult, ~~which comprises a cell sheet having biological connection without scaffold~~

wherein:

the cell is an embryonic stem cell, a mesenchymal stem cell, a hematopoietic stem cell, a blood vessel stem cell, or synovial cells; and

the three-dimensional structure is a cell sheet having biological connection, is free from scaffold, and is obtained by the process comprising:

a) culturing the cells on a cell culture support grafted with a temperature responsive macromolecule having an upper limit critical solution temperature or lower limit critical solution temperature to water of from 0 °C to 80 °C to form a cell sheet;

b) setting a culture medium temperature to the upper limit critical solution temperature or more or the lower limit critical solution temperature or less; and

c) detaching the cell sheet as the three-dimensional structure.

Claims 2-8. (Cancelled)

9. (Currently Amended) [[A]]The structure according to claim 1, wherein the cell is derived from a subject, the structure being applied to the subject.

10. (Currently Amended) [[A]]The structure according to claim 1, wherein the cell is not derived from a subject, the structure being applied to the subject.

11. (Currently Amended) [[A]]The structure according to claim 1, wherein the

structure expresses at least one adult non-heart marker selected from the group consisting of myosin heavy chain IIa, myosin heavy chain IIb, myosin heavy chain IId(IIx), CD56, MyoD, Myf5, and myogenin.

12. (Currently Amended) ~~[[A]]~~The structure according to claim 11, wherein an expression level of the adult non-heart marker in the structure is at least 50% of an expression level of the adult non-heart marker in skeletal myoblasts.

13. (Currently Amended) ~~[[A]]~~The structure according to claim 1, wherein the three-dimensional structure expresses all of myosin heavy chain IIa, myosin heavy chain IIb, myosin heavy chain IId(IIx), CD56, MyoD, Myf5, and myogenin.

14. (Currently Amended) ~~[[A]]~~The structure according to claim 13, wherein an expression level of each of myosin heavy chain IIa, myosin heavy chain IIb, myosin heavy chain IId(IIx), CD56, MyoD, Myf5, and myogenin in the structure is at least about 50% of an expression level thereof in skeletal myoblasts.

15. (Currently Amended) ~~[[A]]~~The structure according to claim 13, wherein an expression level of each of myosin heavy chain IIa, myosin heavy chain IIb, myosin heavy chain IId(IIx), CD56, MyoD, Myf5, and myogenin in the structure is at least about 100% of an expression level thereof in skeletal myoblasts.

16. (Currently Amended) ~~[[A]]~~The structure according to claim 1, wherein the cell derived from a part other than myocardium is a cell not derived from heart.

Claim 17. (Canceled)

18. (Currently Amended) ~~[[A]]~~The structure according to claim 1, comprising a monolayer cell sheet.

19. (Currently Amended) [[A]]The structure according to claim 1, comprising a multilayer cell sheet.

20. (Currently Amended) [[A]]The structure according to claim 19, wherein the multilayer cell sheet has biological connection between cell sheets.

21. (Currently Amended) [[A]]The structure according to claim 20, wherein the biological connection is selected from the group consisting of connection via extracellular matrix, electrical connection, and connection without scaffold.

Claim 22. (Canceled)

23. (Currently Amended) A medicament comprising the [[A]] structure according to claim 1, which is used for treatment of a heart and wherein the heart has a disease or disorder selected from the group consisting of heart failure, ischemic heart disease, myocardial infarct, cardiomyopathy, myocarditis, hypertrophic cardiomyopathy, dilated phase hypertrophic cardiomyopathy, and dilated cardiomyopathy.

24. (Withdrawn) A method for producing a three-dimensional structure applicable to heart comprising a cell derived from a part other than myocardium of an adult, the method comprising the steps of:

a) culturing the cell derived from the part other than myocardium of an adult on a cell culture support grafted with a temperature responsive macromolecule having an upper limit critical solution temperature or lower limit critical solution temperature to water of from 0°C to 80°C;

b) setting a culture medium temperature to the upper limit critical solution temperature or more or the lower limit critical solution temperature or less; and

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c) detaching the cultured cell as a three-dimensional structure.

25. (Withdrawn) A method according to claim 24, wherein a treatment using a protein degrading enzyme is not performed in or before the detaching step.

26. (Withdrawn) A method according to claim 24, wherein the temperature responsive macromolecule is poly (N-isopropylacrylamide).

27. (Currently Amended) A method for treating the disease or disorder selected from the group consisting of heart failure, ischemic heart disease, myocardial infarct, cardiomyopathy, myocarditis, hypertrophic cardiomyopathy, dilated phase hypertrophic cardiomyopathy, and dilated cardiomyopathy, recited in claim 23 which comprises the steps of disposing ~~[[a]]~~the three-dimensional structure according to claim 1 to cover a portion of a heart to be treated and holding the structure for a time sufficient to connect to the portion.

28. (Currently Amended) ~~[[A]]~~The method according to claim 27, wherein ~~[[the]]~~a surface of ~~[[a]]~~the heart is treated with HGF.